

Justin Connolly
Pete Schwartz
UNIV 391
November 3, 2014

Appropriate Technology: Tools, Choices, and Implications

Appropriate Technology is a textbook that grew out of an engineering course for liberal arts majors at Brown University. The book looks at the pervasive role of technology in the modern world. The book presents the fundamentals of the design process, appropriate technologies, and highlights the social impacts of these technologies.

The authors begin the book with an overview of what appropriate technology is, the history of appropriate technology, and the basic physics of electricity, energy conversion, and various forms of power. They then get into more specific technologies, including wind power, hydropower, tools, photovoltaics, methane digesters, agriculture, aquaculture, and health care. They then conclude the book with suggestions of how these technologies can be used in the third world, the United States, and policies that could be put in place to implement appropriate technology.

Appropriate technology can best be described as “Small scale, energy efficient, environmentally sound, labor-intensive, labor intensive, and controlled by the local community”. An example of using this could be choosing to build a farmer a horse pulled plow for his field instead of giving him a tractor. The reason why the plow would be “appropriate” is that it would help the farmer plow his fields more effectively without giving him a tool that will make him dependent on diesel, lubricants, and replacement parts that cannot be produced locally. The plow may not be as effective compared to a working tractor, but can be used sustainably for years, and can be copied throughout by neighboring farmers.

Appropriate technologies can be used in a variety of applications, as it is an attempt to match the simplest, most sustainable technology with a need. The book goes through all of the different technologies, but for the purpose of this report, Energy usage will be a good example. The book first lays out the process for estimating energy use per household per day, which calculates Kilowatts of use based on how many lights, appliances, and hours of operation. The book then considers different ways to power a home, with a gas powered A/C generator, or a solar array hooked up to old car batteries. The authors consider the practical limitations of these technologies, and shows the reader how each situation calls for a different application of technology.

After the book gives the reader a run down on all the different technologies, it focuses on the people who these technologies will affect. The authors illustrate the importance of truly understanding the needs of the third world, and explain the importance of understanding how introducing a technology can change the way a society operates, how people interact with one another, and how they feel about themselves. There are also environmental concerns, such as a solar panel being punctured and leaching chemicals into the soil if the solar panel weren't properly

taken care of. Appropriate technology must encourage an attitude of self-reliance, and alleviate poverty wherever possible.

Reading this book was the most valuable part of this class for me so far. As a technical type, the book showed actual physical manifestations of what we talk about in class everyday. There are concrete solutions that can make a different difference in the lives of billions of people around the world by making incremental improvements in local economies and finding the appropriate technology for the unique needs of every person around the world.